Biological Evaluation & Assessment
for
Forest Service Sensitive
and
Federally Listed
Plant Species

Cruzane Mountain Project

Superior Ranger District
Lolo National Forest

September 7th, 2019
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Introduction

National Forest System lands are home to numerous rare plant species. As manager of these lands the Forest Service is tasked with maintaining populations of all native plants, including rare species, where they occur on National Forest System lands. Rare plant species receive special conservation emphasis because their scarcity on the landscape, often coupled with narrow habitat requirements, may increase the risk of National Forest management activities detrimentally impacting them. The purpose of this Biological Evaluation & Assessment is to determine how the proposed Cruzane Mountain project would affect rare plants – specifically, species designated as threatened, endangered, or sensitive (TES).

Regulatory Framework

Under the Endangered Species Act of 1973 (2012), federal departments and agencies are required to conserve threatened or endangered species by ensuring their activities "are not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitats". The US Fish and Wildlife Service (FWS) is responsible for designating ("listing") terrestrial species as threatened or endangered. Federal agencies such as the Forest Service must consult with the FWS when their activities would affect threatened or endangered species (U.S. Department of Agriculture 2003).

Forest Service sensitive plant species, designated by the agency's regional foresters, are species "for which population viability is a concern, as evidenced by significant current or predicted downward trends in 1) population numbers or density and/or 2) habitat capability that would reduce a species' existing distribution" (U.S. Department of Agriculture 1995). Forest Service management practices should "avoid or minimize impacts" on sensitive species to ensure they do not become threatened or endangered because of Forest Service actions and to maintain viable populations of all native species throughout their geographic range on National Forest System lands (U.S. Department of Agriculture 1995). Where impacts cannot be avoided, the agency will analyze "the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole". For sensitive species, effects are considered adverse if they "contribute to a trend toward federal listing or loss of viability for the species".

Methodology

Pre-field Review

Known locations of TES plants in the project vicinity were reviewed. This information was compared with aerial imagery and personal knowledge of habitats within the project area to identify potential habitat for TES plant species. The following eight species were determined to have potential habitat in the project area (Appendix A): tapertip onion (*Allium acuminatum*); common sandweed (*Athysanus pusillus*); peculiar moonwort (*Botrychium paradoxum*); diamond clarkia (*Clarkia rhomboidea*); clustered lady's slipper (*Cypripedium fasciculatum*); western pearlflower (*Heterocodon rariflorum*); oldstem Idahoa (*Idahoa scapigera);* and hill monkeyflower (*Mimulus clivicola*).

No records of TES species within five miles of the Cruzane project were found. Some or all of the project area was previously surveyed for TES plants during the DeBaugan project (2005-2006). Two occurrences of clustered lady's slipper, both 8.7 miles east of the Cruzane project, were found within the DeBaugan project area.

Field Surveys

Where proposed Cruzane project activities overlapped potential TES plant habitat, field surveys were done to determine the location and condition (e.g., number of plants, acres occupied, habitat quality) of any populations. One thousand fifty acres having the highest potential for TES species were surveyed between mid-May and mid-July by Eva Masin and Michele Disney, both experienced in finding rare plants in Lolo National Forest. No TES plant species were found during project field surveys.

Threatened and Endangered Species Consultation

The FWS website was checked to determine if any threatened or endangered plant species or their critical habitat occur on the Lolo National Forest (U.S. Department of Interior 2018). Two threatened plant species are present north of the Lolo National Forest: water howellia (*Howellia aquatilis*) and Spalding's catchfly (*Silene spaldingii*). Water howellia occurs in small vernal ponds and sloughs in valley bottoms in the Swan Valley, and Spalding's catchfly has been found in Palouse prairie remnants near and north of Flathead Lake (Montana Natural Heritage Program 2016). Neither species has been found on the Lolo National Forest. Critical habitat has not been designated for either species. Consultation with the FWS is not needed because no federally listed plant species are reported from the Superior Ranger District, no prairies or valley bottoms are within the project area, and no listed species were found during project surveys.

Whitebark pine (*Pinus albicaulis*) is a "candidate" species under the Endangered Species Act (ESA) – that is, the FWS has determined that listing whitebark pine as a threatened or endangered species is justified (U.S. Department of Interior 2011). However, the formal ESA process for listing whitebark pine is currently precluded by higher priority actions, such as listings subject to a court-ordered deadline or ESA statutory deadlines. The FWS reviews whitebark pine's status annually, and it may be listed as a threatened or endangered species once priorities and funding allow. In the interim, the Forest Service has designated whitebark pine as a sensitive species (Weldon 2011). Whitebark pine occurs in subalpine habitats that are over 6,000 feet elevation. The highest point in the Cruzane Mountain Project is 4860 feet elevation. No whitebark pines were found during field surveys.

Federally-listed and Regionally Sensitive Plant Protection Measures

No TES plant species were found in the Cruzane Mountain Project; therefore no site-specific resource protection measures were needed.

Effects Analysis

No TES species were found in the project area during field surveys of the best potential habitat, or in a search of TES species records. It is assumed that the project area lacks suitable habitat

for TES species and therefore they would not be affected by Cruzane Mountain project activities. The combined effects of past, ongoing, and reasonably foreseeable actions would have no effect on TES plant species for the same reason.

Summary of Determinations

The Cruzane Mountain Project will have no impact on the Region One Regional Forester sensitive species in Appendix A. The Cruzane Mountain Project will have no effect on the three plant species in Appendix A with status (Threatened or Candidate) under the Endangered Species Act.

Appendix A

Summary of Cruzane Mountain Project Potential Impacts on
Threatened, Endangered, and Sensitive Plants

Species	Status*	Pre-field Review (Potential Habitat?)	Rationale for Presence/Absence of Potential Habitat in Project Area	Field Survey (Species Located?)	Impact Determination**
Adoxa moschatellina musk-root	Sens	N	Habitat of moist, mossy talus at 4200-4500 feet southeast of Missoula absent in project area.	N	NI
Ageratina occidentale western snakeroot	Sens	N	Habitat of rock outcrops & talus at 5500-7800 feet south of Superior absent in project area.	N	NI
Allium acuminatum tapertip onion	Sens	**Y**	Habitat of dry montane forests at 2400-7100 feet present in project area.	N	NI
Amerorchis rotundifolia round-leaved orchis	Sens	N	Habitat of riparian spruce forest and fens at 3300-5900 feet north of Missoula absent in project area.	N	NI
Arabis fecunda Sapphire rockcress	Sens	N	Habitat of open, rocky calcareous soils at 4200-8000 feet south of Missoula absent in project area.	N	NI
Athysanus pusillus sandweed	Sens	Y	Habitat of vernally moist rock ledges at 4000-4800 feet northwest of Missoula present in project area.	N	NI
Bidens beckii Beck's water marigold	Sens	N	Habitat of lakes, rivers, and sloughs at 3000-4000 feet northeast of Missoula absent in project area.	N	NI
Botrychium paradoxum peculiar moonwort	Sens	Y	Habitat of wet meadows and wet conifer forest at 3500-8500 feet present in project area.	N	NI
Brasenia schreberi watershield	Sens	N	Habitat of shallow lakes, sloughs, and rivers at 3000-4000 feet north and east of Plains absent in project area.	N	NI
Carex amplifolia bigleaf sedge	Sens	N	Habitat of partially forested or shrubby wetlands below 3500 feet absent in project area.	N	NI
Carex chordorrhiza creeping sedge	Sens	N	Habitat of *Sphagnum* moss fens and marshes at 3400-5300 feet north of Missoula absent in the project area.	N	NI
Carex rostrata beaked sedge	Sens	N	Habitat of fens at 4200-4400 feet north of Missoula absent in project area.	N	NI
Clarkia rhomboidea diamond clarkia	Sens	Y	Habitat of dry montane forest at 3200-4400 feet northwest of Missoula present in project area.	N	NI
Claytonia arenicola sand springbeauty	Sens	N	Habitat of mossy talus on north aspects at 2500-3000 feet northwest of Missoula absent in project area.	N	NI
Cypripedium fasciculatum clustered lady's slipper	Sens	Y	Habitat of moist montane forest at 2500-4800 feet north of Missoula present; species known from within 15 miles of project area.	N	NI
Cypripedium parviflorum yellow lady's slipper	Sens	N	Habitat of wet mossy forest & wet meadow edges at 2500-9100 feet absent in project area.	N	NI
Cypripedium passerinum sparrow's egg lady's slipper	Sens	N	Habitat of wet conifer forest at 3100-5700 feet northeast of Missoula absent in project area.	N	NI
Drosera anglica English sundew	Sens	N	Habitat of fens at 3000-7000 feet absent in project area.	N	NI
Dryopteris cristata crested shield fern	Sens	N	Habitat of wet soils around fens and swamps at 2900-7400 feet absent in project area.	N	NI
Epipactis gigantea stream orchid	Sens	N	Habitat of mineral-rich seeps, fens, stream banks, and lake margins at 2900-6200 feet absent in project area.	N	NI
Gentianopsis simplex hiker's gentian	Sens	N	Habitat of wet meadows, seeps, and fens at 4600-8500 feet south of Missoula absent in project area.	N	NI
Grimmia brittoniae Britton's cliff moss	Sens	N	Habitat of vertical, usually overhanging cliffs and boulders in moist conifer forest at 2500-4500 feet absent in project area.	N	NI

Species	Status*	Pre-field Review (Potential Habitat?)	Rationale for Presence/Absence of Potential Habitat in Project Area	Field Survey (Species Located?)	Impact Determination**
Grindellia howellii Howell's gumweed	Sens	N	Habitat of seasonal wetlands and meadows at 3300-6100 feet northeast of Missoula absent in project area.	N	NI
Heterocodon rariflorum western pearlflower	Sens	**Y**	Habitat of vernally moist swales at 2700-7000 feet present in project area.	N	NI
Howellia aquatilis water howellia	Sens; FT	N	Habitat of vernal ponds and oxbow sloughs at 3100-4500 feet north of the Lolo NF absent in the project area.	N	NI
Idahoa scapigera scalepod	Sens	Y	Habitat of vernally moist rock ledges at 3500-5000 feet present in the project area.	N	NI
Meesia triquetra three-ranked moss	Sens	N	Habitat of fens at 4000-8000 feet absent in project area.	N	NI
Mertensia bella Oregon bluebells	Sens	N	Habitat of wet forest openings, often with Sitka alder, at 4000-6000 feet southwest of Missoula absent in project area.	N	NI
Mimulus ampliatus stalk-leaved monkeyflower	Sens	N	Habitat of open, vernally moist rock ledges at 3000-5500 feet absent in project area.	N	NI
Mimulus breviflorus short-flowered monkeyflower	Sens	N	Habitat of open, vernally moist rock ledges at 3000-4500 feet absent in project area.	N	NI
Mimulus clivicola hill monkeyflower	Sens	Y	Habitat of dry, open montane forest at 2800-4100 feet northwest of Missoula present; species known from within fifteen miles of the project area.	N	NI
Phlox kelseyi var. missoulensis Missoula phlox	Sens	N	Habitat of exposed limestone soils at 3600-8100 feet east of Missoula absent in project area.	N	NI
Pinus albicaulis whitebark pine	Sens; FC	N	Habitat of subalpine forest above 6000 feet absent in the project area.	N	NI
Potamogeton obtusifolius blunt-leaved pondweed	Sens	N	Habitat of shallow ponds, lakes, and sloughs at 3100-8800 feet northeast of Missoula absent in project area.	N	NI
Scheuchzeria palustris pod grass	Sens	N	Habitat of fens at 2700-6900 feet absent in project area.	N	NI
Schoenoplectus subterminalis water bulrush	Sens	N	Habitat of shallow ponds, lakes, and sloughs at 2900-6000 feet north and east of Plains absent in project area.	N	NI
Scorpidium scorpioides Scorpidium moss	Sens	N	Habitat of calcareous wetlands, especially fens, at 4000-5700 feet northeast of Missoula absent in project area.	N	NI
Silene spaldingii Spalding's catchfly	Sens; FT	N	Habitat of grasslands, usually in swales or draws, at 2700-3500 feet northeast of Plains absent in project area.	N	NI
Trifolium eriocephalum woollyhead clover	Sens	N	Habitat of vernally wet meadows and open forest at 4500-5100 feet south of Missoula absent in project area.	N	NI
Trifolium gymnocarpon hollyleaf clover	Sens	N	Habitat of dry, open montane forest slopes at 4800-6300 feet south of Missoula absent in project area.	N	NI
Waldsteinia idahoensis Idaho barren strawberry	Sens	N	Habitat of wet meadows and forest (often riparian) at 3400-4800 feet southwest of Missoula absent in project area.	N	NI

* Definition of Status

FC = "Candidate" for Federal Listing
FT = Federally Listed "Threatened"
Sens = Forest Service, Northern Region "Sensitive"

** Definition of Determination

NI = No Impact (Effect) on the species
MIIH = May Impact (Affect) Individuals or Habitat, but will likely not contribute to a trend toward federal listing or loss of viability for the species

Literature Cited

2012. Endangered Species Act of 1973.

Montana Natural Heritage Program. 2016. Montana Natural Heritage SOC report: Plant species of concern. Helena, MT.

U.S. Department of Agriculture, Forest Service. 1995. Wildlife, fish, and sensitive plant habitat management. In *Forest Service Manual*, 24. Washington, DC: U.S. Department of Agriculture, U.S. Forest Service.

---. 2003. Threatened, endangered and sensitive plants and animals. In *Forest Service Manual: Wildlife, Fish, and Sensitive Plant Habitat Management*, 20. Denver, CO: U.S. Department of Agriculture, U.S. Forest Service, Rocky Mountain Region (Region 2).

U.S. Department of Interior, Fish and Wildlife Service (2011) Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List Pinus albicaulis as Endangered or Threatened With Critical Habitat, Federal Register. *Federal Register,* 76**,** 42631 - 42654.

Weldon, L. A. C. 2011. Sensitive Species Designation for Whitebark Pine. ed. S. D. Forest and Grasslands Supervisors. Missoula, MT: U.S. Department of Agriculture, Forest Service, Region One.